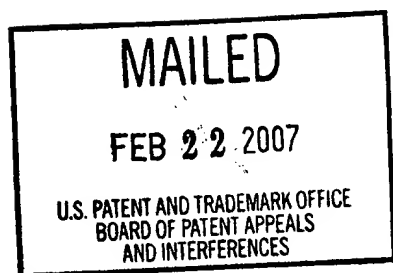


The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAY S. WALKER, ANDREW S. VAN LUCHENE,
MAGDALENA MIK, and DANIEL E. TEDESCO



Appeal 2006-2040
Application 09/350,875
Technology Center 3600

Decided: February 22, 2007

Before ROBERT E. NAPPI, LINDA E. HORNER, and ANTON W. FETTING,
Administrative Patent Judges.

HORNER, Administrative Patent Judge.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 (2002) of the Examiner's final rejection of claims 1-15, 32, and 57-71.¹ We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We REVERSE.

THE INVENTION

Appellants invented a method of calculating a purchase total for a transaction. Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A method of calculating a purchase total for a transaction, the method comprising the steps of:

receiving a plurality of product identifiers, each of the product identifiers representing a respective product to be purchased;

calculating an initial purchase total for the transaction based on respective first prices for each of the products to be purchased;

determining whether the initial purchase total is at least equal to a predetermined threshold purchase total; and

if the initial purchase total is at least equal to the predetermined threshold purchase total, calculating a reduced purchase total for the transaction based on respective second

¹ Claims 16-31 and 33-56 have been cancelled.

prices for each of the products to be purchased,

at least one of the respective second prices being lower than the corresponding first price for the product to be purchased,

wherein at least one of the respective second prices is calculated based on at least one of (i) the first price, (ii) a cost associated with the corresponding product, and (iii) a minimum profit amount, and

wherein a percentage difference between one first price and the corresponding second price for a first product to be purchased in the transaction

is different than

a percentage difference between another first price and the corresponding second price of a second product to be purchased in the transaction.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Dlugos	US 5,444,630	Aug. 22, 1995
Schultz	US 5,056,019	Oct. 08, 1991
Applicant Admitted Prior Art (AAPA)		

The following rejections are before us for review.

1. Claims 1-15, 32, and 57-71 stand rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter.
2. Claims 1-15, 32, and 57-71 stand rejected under 35 U.S.C. § 102 for being anticipated by AAPA.

3. Claims 1-15, 32, and 57-71 stand rejected under 35 U.S.C. § 102(b) for being anticipated by Dlugos.
4. Claims 1-15, 32, and 57-71 stand rejected under 35 U.S.C. § 102(b) for being anticipated by Schultz.

ISSUE 1: NON-STATUTORY SUBJECT MATTER

Appellants contend that the method of the claims of Groups I and III² are statutory because they include the step of calculating a reduced purchase total for the transaction, and this reduced purchase total, which may be charged to a customer, is a useful, concrete, and tangible result (Br. 32, 53). Appellants further contend that the method of the claims of Group II are statutory because they include the step of applying the reduced purchase total as a final purchase total for the transaction, which is a useful, concrete, and tangible result (Br. 43). The Examiner contends that the methods of the claims of Groups I, II, and III relate to merely abstract ideas, and do not transform any physical subject matter into a different state or thing or produce a “concrete and tangible” result (Answer 9-13).³ The issue before us is whether Appellants have shown that the Examiner erred in rejecting claims 1-15, 32, and 57-71 under 35 U.S.C. § 101 as directed to non-

² Appellants grouped the claims into three groups: Group I – claims 1-4, 6-15, 32, 57-59, 61-69, and 71; Group II – claims 5 and 60; and Group III – Claim 70 (Br. 8). Claims 5 and 60 depend from claim 1, and claim 70 depends from claim 32. For purpose of this decision, we treat claims 1, 5, and 70 as representative claims.

³ Throughout this decision, “Answer” refers to the Examiner’s Answer of February 8, 2006.

statutory subject matter. More particularly, the issue is whether Appellants have shown that the Examiner erred in finding the methods of claims 1-15, 32, and 57-71 to be merely abstract ideas that do not produce a useful, concrete, and tangible result.

FINDINGS OF FACT

A preponderance of the evidence establishes the following facts:

The preamble of claim 1 recites a “method of calculating a purchase total for a transaction.”

The body of claim 1 recites the steps of “calculating an initial purchase total for the transaction based on respective first prices for each of the products to be purchased” and “if the initial purchase total is at least equal to the predetermined threshold purchase total, calculating a reduced purchase total for the transaction based on respective second prices for each of the products to be purchased.”

The “purchase total” for the transaction, which is calculated by claimed method, is either the “initial purchase total”, if the predetermined threshold has not been reached, or is the “reduced purchase total”, if the predetermined threshold has been reached.

When read in the context of the entire claim, the preamble is necessary to give meaning to the calculating steps in the body of the claim.

The reduced purchase total can be relied on by the customer and retailer as the final purchase total for the products in the transaction.

The reduced purchase total of claim 1 is a number that can be used in a transaction for the purchase of goods.

PRINCIPLES OF LAW

The Supreme Court has acknowledged that Congress intended § 101 to extend to “anything under the sun that is made by man.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). The Supreme Court has identified only three categories of subject matter that are unpatentable, namely “laws of nature, natural phenomena, and abstract ideas.” *Diamond v. Diehr*, 450 U.S. 175, 182 (1981).

The proper inquiry requires a claim to be considered as a whole. *Diehr*, 450 U.S. at 188; *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999); and *In re Alappat*, 33 F.3d 1526, 1543-44, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994). Any assessment to determine whether a claim recites statutory subject matter should be fact-specific and conducted on a case-by-case basis.

“[T]he Court has held that mathematical algorithms are not patentable subject matter to the extent that they are merely abstract ideas.” *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600 (Fed. Cir. 1998) (citations omitted). “Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not ‘useful.’” *Id.* Stated differently, “certain types of mathematical subject matter, standing alone, represent nothing more than *abstract ideas* until reduced to some type of practical application.” *In re*

Alappat, 33 F.3d 1526, 1543, 31 USPQ2d 1545, 1556-57 (Fed. Cir. 1994) (emphasis in original).

A claim reciting a mathematical algorithm is not directed to an abstract idea if the claim is directed to a specific machine or process applied “to produce a useful, concrete, and tangible result.” *See AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1359, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999); *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601; and *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557.

In *State Street*, the claim at issue was directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership, which system included means for calculating a final share price. 149 F.3d at 1371-72, 47 USPQ2d at 1599. The court found that the claim was not directed to an abstract idea, and held,

transformation of data, representing discrete dollar amounts, by a machine, through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a “useful, concrete and tangible result” – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Id. at 1373, 47 USPQ2d at 1601.

This same analysis of abstract ideas applies equally to process claims. *See AT&T*, 172 F.3d at 1357, 50 USPQ2d at 1451 (“Whether stated implicitly or

explicitly, we consider the scope of § 101 to be the same regardless of the form – machine or process – in which a particular claim is drafted.”).

In *AT&T*, the claims at issue were directed to methods of adding a data field into a standard message record to indicate whether a call involves a particular primary interexchange carrier (PIC). 172 F.3d at 1354, 50 USPQ2d at 1449. The method claims each included the step of “generating a message record for an interexchange call between an originating subscriber and a terminating subscriber” and the step of adding a PIC indicator to the message record. *Id.* The court found the claimed process applied the value of the PIC indicator through switching and recording mechanisms to create a signal useful for billing purposes. *Id.* at 1358, 50 USPQ2d at 1452. The court held that the claimed process fell within the scope of § 101, because although the PIC indicator value is derived using a mathematical principle, “the claimed process applies the Boolean principle to produce a useful, concrete, and tangible result without pre-empting other uses of the mathematical principle.” *Id.*

In order to determine whether the claims recite statutory subject matter, we must first determine the scope of the claims. In this case, we considered the impact of the preamble to the scope of the claim. “If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’ to the claim, then the claim preamble should be construed as if in the balance of the claim.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999) (citing *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478,

480-81 (CCPA 1951)) (additional citation omitted). *See also Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003) (In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to “a human in need thereof,” the court held that the claims’ recitation of a patient or a human “in need” gives life and meaning to the preamble’s statement of purpose.).

ANALYSIS

The preamble of claims 1 and 32 recites a “method for calculating a purchase total for a transaction.” The body of the claims refers back to “the transaction” in defining the method. In particular, claims 1 and 32 recite “calculating an initial purchase total for the transaction based on respective first prices for each of the products to be purchased” and “if the initial purchase total is at least equal to the predetermined threshold purchase total, calculating a reduced purchase total for the transaction based on respective second prices for each of the products to be purchased.” We read these claims to mean the “purchase total” for the transaction, which is calculated by claimed method, is either the “initial purchase total”, if the predetermined threshold has not been reached, or is the “reduced purchase total”, if the predetermined threshold has been reached. When read in the context of the entire claim, the preamble is necessary to give meaning to the calculating steps. The preamble is not merely a statement of the objective of the method. Rather, it is a statement of the intentional purpose for which the

method must be performed. *See e.g., Jansen*, 342 F.3d at 1333, 68 USPQ2d at 1158. As such, we construe the claim preamble to be in the balance of the claim.

Using this claim scope, we turn to our analysis of the § 101 rejection. While we agree with the Examiner that claims 1 and 32 recite steps that require the use of a mathematical algorithm to calculate a reduced purchase total (Answer 9), we find that both the initial purchase total and the reduced purchase total are “useful, concrete, and tangible” results because they can be relied on by the customer and retailer as the final purchase total for the products in the transaction. Stated differently, the final purchase total can be put to practical use within certain real-world contexts, such as by charging the customer the initial or the reduced purchase total for the transaction. As such, the calculated numbers are not the result of an abstract manipulation of data. Rather, the calculated numbers have a practical application in the real-world. Similar to the final share price in *State Street*, which the court found had practical applicability because it could be used for reporting purposes and could be relied upon by regulatory authorities and in subsequent trades, the initial and reduced purchase totals recited in claims 1 and 32 have practical applicability because they can be used as a final purchase price and can be relied upon by the seller and a purchase as the total price for the goods in the transaction.

The Examiner appears to require output (i.e., a display or other physical output) of the calculated reduced purchase total in order find a useful, concrete, and tangible result (Answer 10). Specifically, the Examiner found that the claimed method has no tangible effect on the world because it lacks a step for outputting

the calculated reduced purchase total (Answer 11). We do not find such a requirement for physical output in the precedent interpreting § 101. As discussed *supra*, the court in *State Street* found transformation of data through a series of mathematical calculations into a final share price constitutes a practical application of a mathematical algorithm, because the calculated number could be used for reporting purposes and could be relied upon by regulatory authorities in subsequent trades. 149 F.3d at 1371-72, 47 USPQ2d at 1601. This practical application of the number gave the number a real-world application and made the claimed method more than just an abstract manipulation of ideas. Similarly, in this case, we find, for example, transformation of the initial purchase total into a reduced purchase total constitutes a practical application of a mathematical algorithm because the reduced purchase total represents the reduced total price for the transaction and can be relied upon as a final purchase total for the transaction.

To the extent that the Examiner contends that the claimed subject matter is not within the technological arts, the Board of Patent Appeals and Interferences held in *Ex parte Lundgren*, 76 USPQ2d 1385 (Bd. Pat. App. & Int. 2005), there is currently no judicially-recognized separate “technological arts” test to determine patent eligible subject matter under § 101. Therefore, we find the Examiner’s argument unpersuasive.

CONCLUSIONS OF LAW

We conclude that the Examiner erred in rejecting claims 1 and 32, and their dependent claims 2-15 and 57-71, under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

ISSUE 2: ANTICIPATION BY AAPA

The Examiner found that Appellants have represented the inventive step of their invention to be producing the combination of existing, known methods of calculating discounts and purchase totals for known sales channels (e.g., retail stores, websites, etc.) with a point-of-sale terminal or other computer (i.e., computerizing a known method), and since the claims do not require a computer, they read on the underlying manual method of performing the calculations, which Appellants admit are known and conventional (Answer 13). Appellants contend that none of the Admitted Prior Art relied upon by the Examiner shows that it was known in the art to calculate a reduced purchase total such that a percentage difference in prices for a first product is different than a percentage difference in prices for a second product if an initial purchase total is at least equal to a predetermined threshold purchase total (Br. 17). The issue before us is whether Appellants have shown that the Examiner erred in finding that the Appellants' Admitted Prior Art anticipates the methods of claims 1 and 32.

FINDINGS OF FACT

A preponderance of the evidence establishes the following facts:

Appellants have admitted, in the specification as filed, that it is common practice for retail sellers to discount the prices of products, such as by offering coupons for discounts on particular products redeemed at the time of purchase of the product or by offering coupons or discounts to obtain X dollars off or X percent off a total purchase of Y dollars, in order to attract customers and increase sales volume (Specification 1: 18-27).

Appellants have admitted, in the specification as filed, that other well-known promotional approaches include: “buy one, and get one free,” discounted prices for the purchase of increased, or bulk, quantities, and discounts to “members” through a membership club superstore or through customer cards (Specification 2: 1-9).

Appellants have admitted, in a Response to an Office Action, that “[i]n the prior art systems sellers were constrained by either having to only offer a discount on a few selected products or offering an across-the-board discount (*e.g.*, 10% off across the board) on everything in a purchase” (Response to Office Action, dated September 9, 2002, p. 13, ll. 5-8).

Appellants have not admitted that in the prior art retail sellers would check to see whether an initial purchase total is at least equal to a predetermined threshold purchase total, and if so, then calculate a reduced purchase total such that a percentage difference in prices for a first product is different than a percentage difference in prices for a second product.

ANALYSIS

The Examiner has failed to establish that Appellants' Admitted Prior Art anticipates the invention of claims 1 and 32. In particular, the Examiner relies on Appellants' admission that prior art retail sellers have offered discounts on a few selected products to find that the percentage difference in initial price and discounted price for a first discounted product would be different from the percentage different in initial price and non-discounted price for a second non-discounted product (Answer 14). While this may in fact be the case in the prior art, this fact without more does not meet the limitations of claims 1 and 32.

Both claims 1 and 32 further require that the calculation of the reduced purchase total occurs only if the initial purchase total is at least equal to a predetermined threshold. Appellants have not described, either in the specification or in communications with the PTO, that prior art systems have combined the threshold determination with the calculation of a reduced purchase total in the manner claimed. As such, we find that the AAPA does not anticipate claims 1 and 32, or their dependent claims 2-15 and 57-71.

CONCLUSIONS OF LAW

We conclude that the Examiner erred in rejecting claims 1-15, 32, and 57-71 under 35 U.S.C. § 102 as being anticipated by AAPA.

ISSUE 3: ANTICIPATION BY DLUGOS

Appellants contend that the Examiner erred in finding that Dlugos anticipates claims 1-15, 32, and 57-71, because Dlugos does not show that

different discount levels apply to different products within a single transaction, as required by claims 1 and 32. Appellants contend that Dlugos discloses instead that when a particular discount level is applied to a particular transaction, the entire cost of the transaction is reduced across the board based on the selected discount levels (Br. 18). The Examiner found that Dlugos anticipates claims 1 and 32, because Dlugos discloses using multiple discount levels (Figure 6), and Dlugos discloses that the rates and discounts are different for each package depending on the carrier a user selects and the locality to which the particular package is to be shipped (Answer 16). The issue before us is whether Appellants have shown that the Examiner erred in finding that Dlugos anticipates claims 1 and 32.

FINDINGS OF FACT

A preponderance of the evidence establishes the following facts:

Claims 1 and 32 require that once it has been determined that the initial purchase total is at least equal to a predetermined threshold purchase total, a reduced purchase total is calculated in which a percentage difference in prices for a first product in the transaction is different than a percentage difference in prices for a second product in the transaction.

Dlugos discloses a data processing method and apparatus for effecting customized rating adjustments to transaction charges in a shipping system (Dlugos, col. 1, ll. 7-12).

Dlugos describes an apparatus for computing a charge for a selected transaction, where the apparatus uses stored data to calculate “a rate associated with the transaction” (Dlugos, col. 2, ll. 5-10).

Dlugos discloses, “The application program 33 calls a rates subsystem 34 when performing the rate calculation for a given transaction. The rates subsystem accesses data in a standard rates data base 36 in order to calculate the actual base rate.” (Dlugos, col. 3, ll. 32-36.)

Dlugos discloses that the rates subsystem 34 will call the programs of the discount/surcharge subsystem 38 to reference data in the discount/surcharge data base 40 to calculate the appropriate discount or surcharge (Dlugos, col. 3, ll. 36-42).

Dlugos discloses that multiple carriers may be accommodated by means of multiple data bases or through single data base relating to all carriers (Dlugos, col. 5, ll. 35-37).

Dlugos describes one method in which multiple discount levels may be provided (Dlugos, Figure 6, col. 4, ll. 25-27).

Dlugos discloses that the discount levels may be triggered based on a date, a quantity, or a dollar value (Dlugos, col. 4, ll. 28-32).

Dlugos describes, “the program tests to determine if the dollar amount of charges previously billed is greater than a threshold M2, and if yes, at 140 the program selects National Transform data set N3” to apply the appropriate discounts and surcharges for that transaction (Dlugos, Figure 6, col. 4, ll. 53-56).

Dlugos discloses that the program then continues to test for triggers to apply the second level of discounts/surcharges using the Local Transform data set (Dlugos, Figure 6, col. 4, l. 63 – col. 5, l. 6).

Dlugos describes, “[w]hen all selections have been made, the routine calculates the final rate at 160 and returns.” (Dlugos, Figure 6, col. 5, ll. 8-9.)

As such, we find that Dlugos discloses applying a single rate to each transaction and does not disclose applying different rates to different packages within the same transaction.

ANALYSIS

We disagree with the Examiner’s finding that Dlugos discloses applying different rates to different packages in the same transaction. It is not clear from Dlugos whether each package shipped is treated as its own transaction, or whether the rates for multiple packages can be calculated as a single transaction. Regardless, Figure 6 clearly shows that the method of Dlugos applies the same rate changes across the board to each transaction, even if the transaction includes more than one product (“package”).

Although Dlugos discloses that a shipper can negotiate different rates with different carriers, if a shipper were to ship packages using different carriers, it appears that the calculation of the rates for each package shipped using a different carrier would have to be treated according to the method of Figure 6 as a different transaction. There is no disclosure in Dlugos of applying different rates to packages within the same transaction.

Further, the disclosure in Dlugos of using a threshold purchase total based on a dollar value as a trigger describes that the dollar amount threshold is based on “charges previously billed.” As such, Dlugos does not appear to compare an initial purchase total of a current transaction with a threshold purchase total to use as a trigger for calculating a reduced purchase total. As such, Dlugos does not anticipate the method of claims 1 and 32 or their dependent claims 2-15 and 57-71.

CONCLUSIONS OF LAW

We conclude that the Examiner erred in rejecting claims 1-15, 32, and 57-71 under 35 U.S.C. § 102(b) as being anticipated by Dlugos.

ISSUE 4: ANTICIPATION BY SCHULTZ

Appellants contend that the Examiner erred in rejecting claims 1-15, 32, and 57-71 as being anticipated by Schultz because the method of Schultz does not calculate a reduced purchase total for the transaction (Br. 20). The Examiner found that it is inherent in the method of Schultz that a second purchase total based on second prices of products would be calculated if the first purchase total is at least equal to a predetermined threshold (Answer 17). The question before us is whether Appellants have shown that the Examiner erred in determining that Schultz anticipates the methods of claims 1 and 32.

FINDINGS OF FACT

A preponderance of the evidence establishes the following facts:

Claims 1 and 32 require that once it has been determined that the initial purchase total is at least equal to a predetermined threshold purchase total, a reduced purchase total is calculated in which a percentage difference in prices for a first product in the transaction is different than a percentage difference in prices for a second product in the transaction.

Claims 1 and 32 thus require that for a single transaction, an initial purchase price is calculated based on first prices for each product to be purchased, the initial purchase price is compared to a predetermined threshold purchase total, and if the threshold is met, a reduced purchase total for the transaction is calculated.

Schultz discloses a marketing method for tracking consumer purchases and providing purchase reward offers 2 to consumers (Schultz, col. 5, ll. 5-7 and 58-66).

Schultz discloses processing a consumer's history record to determine if the consumer has made the required purchase(s) to receive rewards and producing a reward certificate 18 for the rewards earned by the consumer (Schultz, col. 8, ll. 58-63).

Schultz discloses that the reward certificate 18 is sent to the consumer 19 with a monthly status report 17 and can be negotiable check or a voucher to be redeemed at a participating retail store 20 for cash or credit toward product purchases (Schultz, col. 8, ll. 64-68).

Schultz discloses that when the consumer redeems the reward certificate 18, the discount is applied to products purchased in a second, subsequent transaction (Schultz, col. 10, ll. 7-34).

Schultz does not disclose a method in which a discount is applied to the products of the first transaction.

ANALYSIS

The Examiner failed to explain how the method of Schultz would be applied to calculate a reduced purchase total for the transaction of claims 1 and 32. The explanation provided by the Examiner on page 17 of the Answer describes a method in which the consumer returns to the store after the first transaction to redeem the rebate and purchase products at a discounted rate in a second transaction. This disclosure in Schultz fails to anticipate the limitation of claims 1 and 32 that requires the reduced purchase total to be calculated “for the transaction.” As such, we find that Schultz does not anticipate claims 1 and 32 or their dependent claims 2-15 and 57-71.

CONCLUSIONS OF LAW

We conclude that the Examiner erred in rejecting claims 1-15, 32, and 57-71 under 35 U.S.C. § 102(b) as being anticipated by Schultz.

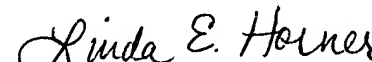
Appeal 2006-2040
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DECISION

The decision of the Examiner to reject claims 1-15, 32, and 57-71 under 35 U.S.C. § 101 is not sustained, and the decision of the Examiner to reject claims 1-15, 32, and 57-71 under 35 U.S.C. § 102(b) as being anticipated by Appellants' Admitted Prior Art, Dlugos, and Schultz is not sustained.

REVERSED


ROBERT E. NAPPI
Administrative Patent Judge


LINDA E. HORNER
Administrative Patent Judge


ANTON W. FETTING
Administrative Patent Judge

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Appeal 2006-2040
Application 09/350,875

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